

REMARKS

This communication responds to the Office Action mailed on May 17, 2007. Claims 1, 6, 12, 18, 22 and 24 are amended, claims 4-5 are canceled, and no claims are added. As a result, claims 1-3 and 6-28 are now pending in this Application.

§102 Rejection of the Claims

Claims 1-2, 4-7, 10-11, 14-19, 22, and 24 were rejected under 35 USC § 102(e) as being anticipated by Kawanabe (U.S. 7,054,397). First, the Applicant does not admit that Kawanabe is prior art, and reserves the right to swear behind this reference in the future. Second, because the Office has not properly established a *prima facie* case of anticipation with respect to the amended independent claims, the Applicant respectfully traverses this rejection.

The independent claims have been amended to incorporate variations of the limitations in previously pending claims 4 and 5, which are now canceled. It is asserted in the Office Action that Kawanabe “discloses providing the multiplicity of digital samples to a plurality of digital bandpass filters,” as originally recited in Applicant’s canceled claim 5. However, a close reading of Kawanabe reveals that such is not the case.

Kawanabe describes “a base station which includes a plurality of antennas, a frequency shift portion, a combining portion, a receiving portion and a signal processing portion.” Kawanabe, *Abstract*. “The signal processing portion includes a spreading demodulation portion 125, a judging portion 129, and a fading compensation portion (or fading measuring portion) 133.” Kawanabe, Col. 6, lines 3-6.

Kawanabe’s combining signal 117 (an analog signal) is converted to a digital signal 121 within the receiving portion 119. *See* Kawanabe, FIGs. 2 and 5; and Col. 5, lines 35-62. Immediately prior to conversion into the digital signal 121, the combining signal 117 is filtered with analog filters 145, 151, and 159. *See* Kawanabe, FIG. 5 and Col. 5, lines 35-42. After this conversion produces the digital signal 121, the “... spreading demodulation means 125-n performs the spreading demodulation process for the digital signal 121 on the basis of a spreading code (not shown) corresponding to each of the mobile stations ... the spreading demodulation means 125-n produces modulated data signals ... at every mobile stations 101 -1’ – n’.” Kawanabe Col. 6, lines 13-21.

Thus, Kawanabe does not disclose “providing the multiplicity of digital samples to a plurality of digital bandpass filters,” as claimed by the Applicant in amended claims 1 and 12, nor “a plurality of digital bandpass filters to couple to the analog-to-digital converter and to receive the multiplicity of digital samples” as claimed by the Applicant in independent claims 18 and 24. Rather, Kawanabe provides the digital signal 121 to a plurality of spreading demodulation means 125-n. Kawanabe, FIG. 2.

It is respectfully noted that anticipation under 35 USC § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *See Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). “The *identical invention* must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131 (emphasis added).

While claims during examination should be interpreted as broadly as their terms reasonably allow, that interpretation must be tempered by the context in which the terms are used. The *Hyatt* court states that “during examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.” *In re Hyatt*, 211 F.3d 1367, 1372, 54 U.S.P.Q.2D (BNA) 1664, 1667 (Fed. Cir. 2000) (emphasis added) (“During examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.”; citing *In re Graves*, 69 F.3d 1147, 1152, 36 U.S.P.Q.2D (BNA) 1697, 1701 (Fed. Cir. 1995); *In re Etter*, 756 F.2d 852, 858, 225 U.S.P.Q. (BNA) 1, 5 (Fed. Cir. 1985) (en banc).).

The interpretation of the term “digital bandpass filter” proffered by the Office is neither reasonable, nor consistent with the specification. It is not reasonable because it does not encompass the meaning of the term as understood by those of ordinary skill in the art. That is, the cited portion of Kawanabe (i.e., Kawanabe, Col. 5, lines 39-42) with respect to claim 5

describes *analog* filters (filters 145, 151, 159), not digital filters. It is also not consistent with the specification because it is apparent from viewing FIG. 1 of the Application that the Applicant's signal having a multiplicity of samples (i.e., sampled data stream $y(i)$) is received by the claimed plurality of *digital* bandpass filters 144. "A *digital filter* takes a digital input, gives a digital output, and consists of digital components. In a typical digital filtering application, software running on a digital signal processor (DSP) reads input samples from an A/D converter, performs the mathematical manipulations dictated by theory for the required filter type, and outputs the result via a D/A converter." Wagner, Brian and Michael Barr. "Introduction to Digital Filters" Embedded Systems Programming, December 2002, pp. 47-48 (attached hereto as Appendix I). This is not the type of processing shown in Kawanabe's FIG. 2.

Since Kawanabe does not teach using a plurality of bandpass filters to receive the multiplicity of digital samples provided by sampling the composite signal as claimed by the Applicant, what is disclosed by Kawanabe is not identical to the subject matter of the embodiments claimed, and thus, the rejection of claims 1-2, 4-7, 10-11, 14-19, 22, and 24 under § 102(e) is improper. Reconsideration and allowance are respectfully requested.

§103 Rejection of the Claims

Claims 3, 8-9, 21, and 25 were rejected under 35 USC § 103(a) as being unpatentable over Kawanabe and further in view of Li et al. (U.S. 6,639,551; hereinafter "Li"). Claims 13 and 27 were also rejected under 35 USC § 103(a) as being unpatentable over Kawanabe and further in view of Fernandes (U.S. 5,490,134). Claim 20 was also rejected under 35 USC § 103(a) as being unpatentable over Kawanabe and further in view of Lin et al. (U.S. 6,175,327; hereinafter "Lin"). Claims 23, 26 and 28 were also rejected under 35 USC § 103(a) as being unpatentable over Kawanabe and further in view of Casabona et al. (U.S. 5,782,540; hereinafter "Casabona"). The Applicant does not admit that Li, Fernandes, Lin, or Casabona are prior art, and reserves the right to swear behind these references in the future. In addition, since a *prima facie* case of obviousness has not been established as required by M.P.E.P. § 2142, the Applicant respectfully traverses this rejection.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). The M.P.E.P. contains explicit direction to the Examiner in accordance with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which indicates that the motivation must be supported by evidence in the record.

No proper *prima facie* case of obviousness has been established because the proposed combinations do not teach all of the limitations set forth in the claims. As noted above, Kawanabe does not teach “providing the multiplicity of digital samples to a plurality of digital bandpass filters,” as claimed by the Applicant in amended claims 1 and 12, nor “a plurality of digital bandpass filters to couple to the analog-to-digital converter and to receive the multiplicity of digital samples” as claimed by the Applicant in independent claims 18 and 24. No combination of Li, Fernandes, Lin, or Casabona remedies this deficiency of Kawanabe. Thus, no combination of the cited references can teach the claimed elements.

In summary, no combination of the references teach or suggest what is claimed by the Applicant. Thus, independent claims 1, 12, 18, and 24 are nonobvious. All dependent claims are also nonobvious, since any claim depending from a nonobvious independent claim is also nonobvious. See M.P.E.P. § 2143.03. It is therefore respectfully requested that the rejections of claims 3, 8-9, 13, 20-21, 23, and 25-28 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

§112 Rejection of the Claims

Claims 1 and 12 were rejected under 35 USC § 112, second paragraph, because the Office asserts that these claims do not have sufficient antecedent basis for the limitation “a selected frequency”. The Applicant respectfully notes that no *prima facie* case of indefiniteness has been established, and therefore, the Applicant respectfully traverses this rejection.

To make out a *prima facie* case of indefiniteness, three elements must be shown: interpretation of the claim in light of the specification; interpretation of the claim as one of ordinary skill in the art would interpret it; and that the limitations in the claim, or the subject matter not in the claim, does not reasonably define the invention. It is noted that “[in] relation to Section 112, second paragraph, the Examiner has the burden of showing that the proposed claim language is indefinite to one of skill in the art.” *See* Patent Prosecution: Practice and Procedure Before the U.S. Patent Office by Irah H. Donner, pg. 831, 2002. This type of showing has not been made.

Independent claims 1 and 12 recite “... combining the plurality of shifted signals into a composite signal centered at a selected frequency.” While the Office maintains that there “... is insufficient antecedent basis for this limitation in the claim,” the Applicant respectfully disagrees.

Section 608.01(o) of the M.P.E.P. states:

“New claims and amendments to the claims already in the application should be scrutinized not only for new matter but also for new terminology. While an applicant is not limited to the nomenclature used in the application as filed, he or she should make appropriate amendment of the specification whenever this nomenclature is departed from by amendment of the claims so as to have clear support or antecedent basis in the specification for the new terms appearing in the claims. This is necessary in order to insure certainty in construing the claims in the light of the specification, *Ex parte Kotler*, 1901 C.D. 62, 95 O.G. 2684 (Comm'r Pat. 1901).”

With this guidance in mind, the reader is now directed to the text of the Application, as-filed:

“In addition, the center frequency of the composite signal $y(t)$ may be located at any selected frequency, which may be chosen to be about zero cycles-per-second so that the sampling rate of the ADC 120 can be minimized. ... The method 311

may continue with combining the plurality of shifted signals $y_k(t)$ into a composite signal $y(t)$ centered at a selected frequency (e.g., approximately zero cycles-per-second) at block 335.” Application, pg. 3, line 29 – pg. 4, line 2; and pg. 8, lines 16-18.

Thus, the recitation of “a selected frequency” has explicit support in the Application, and one of ordinary skill in the art would easily be able to determine how to combine “the plurality of shifted signals into a composite signal centered at a selected frequency”, as claimed. Since no *prima facie* case of indefiniteness has thus been established, reconsideration and withdrawal of the rejection of these claims under 35 USC § 112, second paragraph, is respectfully requested.

RESERVATION OF RIGHTS

In the interest of clarity and brevity, the Applicant may not have addressed every assertion made in the Office Action. The Applicant’s silence regarding any such assertion does not constitute any admission or acquiescence. The Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. The Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner’s personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, the Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. The Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

The Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the Applicant's attorney at (210) 308-5677 to facilitate prosecution of this Application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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